

Closure

Applicant has made an earnest attempt to place the above-referenced application in condition for allowance and action toward that end is respectfully requested. Should the Examiner have any further observations or comments, he is invited to contact the undersigned for resolution.

Respectfully submitted,



Douglas E. McKinley, Jr.
Reg. No. 40,280

Douglas E. McKinley, Jr.
PO Box 202
Richland, WA 99352
Phone (509) 628-0809
Fax (509) 628-2307

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Homan, et al.) Art Unit: 1724
Serial No: 09/177,902)
) Examiner: Ivars C. Cintins
Filed: 10/23/98)
) Paper No: 12
For: METHOD AND APPARATUS FOR)
PACKED COLUMN SEPARATIONS) File No: E-1658
AND PURIFICATIONS)
) Date: January 22, 2002
)

Version of Amended Claims to Show Changes Made

Claims 1, 5, 8, and 17 were amended as follows where underlined matter was inserted and bracketed matter deleted:

1. (amended) A method of packing and unpacking a column chamber, comprising the steps of:
flowing a mixture of a matrix material and fluid into a column chamber and forming a packed column from the matrix material, said column chamber having a first port for receiving said mixture, and outlet port and an actuator port wherein said actuator port is provided as having a rod having a binary end placed within said actuator port wherein said binary end of said rod blocks the flow of said matrix material to said outlet port in a first position, permits the flow of said matrix material to said outlet port in a second position, and allows the flow of said fluid through said outlet port in all positions;
[partially closing said outlet port for] capturing said matrix material and permitting said fluid to flow therepast by positioning said binary end of said rod in said first position[rotating relative one to the other of a rod with a binary end placed in actuator port and said column chamber]; and

[further rotating relative one to the other of said rod and said column chamber thereby] opening said outlet by positioning said binary end of said rod in said second position, [and] thereby permitting said matrix material and said fluid to flow [therethrough] through said outlet port thereby unpacking the matrix material from the column chamber.

5. (twice amended) A method of forming a packed column comprising:
providing a column chamber, the column chamber having an inlet end and an outlet end, the outlet end having an actuator port and a flow port, the flow port alternately open or partially obstructed by a binary end of a rod placed in the actuator port wherein said binary end of said rod blocks the flow of a matrix material in a first position, permits the flow of said matrix material in a second position, and allows the flow of a fluid in all positions;
[the flow port first partially obstructed with the binary end]; and
flowing a mixture of [the] a first fluid and [the] a matrix material into the column chamber through the inlet end for packing the matrix material within the column chamber.
8. (amended) A method for purifying a component of a sample comprising:
providing a column chamber, the column chamber having an inlet end and an outlet end, the outlet end having an actuator port and a flow port, the flow port alternately open or partially obstructed about a binary end of a rod placed in the actuator port wherein said binary end of said rod blocks the flow of a matrix material in a first position, permits the flow of said matrix material in a second position, and allows the flow of a fluid in all positions;
flowing [the] a first fluid and [the] a matrix material into the column chamber through the inlet end and along a first flow path to form a packed column of the matrix material within the column chamber, the rod holding the matrix material and permitting flow of the first fluid therethrough, the matrix material being configured to selectively retain a component of the sample;
flowing the sample through the packed column for separating the

component from the rest of the sample;
unobstructing the flow port; and
flowing a second fluid through the column to remove the matrix material from the column chamber.

17. (amended) A method for purifying a biological sample comprising:
providing a column chamber, the column chamber having an inlet end and an outlet end, the outlet end having an actuator port and a flow port, the flow port partially obstructed with a rod with a binary end wherein said binary end of said rod blocks the flow of a matrix material in a first position, permits the flow of said matrix material in a second position, and allows the flow of a fluid in all positions;
flowing a mixture of a first fluid and a matrix material into the column chamber to form a packed column of the matrix material within the column chamber, the matrix material being configured to selectively retain a biological sample;
flowing a sample containing the biological sample through the packed column to separate the biological sample from other components of the sample; flowing a second fluid through the column chamber to remove the matrix material from the column chamber.